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LECTURES ON THE EXPLORATION AND TREATMENT OF DISEASES OF THE CHEST.
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LECTURE II.—*Conformation of Chest—Circumstances attending it—Mode of Examination—Mensuration—Succussion.*

MY first lecture was designed to prevent a frequent source of error, which often produces either an obvious or a concealed influence upon the mind. This is a desire to lay too much stress upon a single set of symptoms, to the neglect of others, and to examine a disease of a part of the body as if it were nearly or altogether unconnected with the same or with different disorders which attack other organs and tissues. In commencing, therefore, a course of lectures which are founded upon the positive evidence of anatomical lesions, and of the corresponding physical signs, I would put you upon your guard against too anatomical a view of the subject, too exclusive a study of lesions, and warn you against allowing the results of disease to be confounded with disease itself, or the physical signs which constitute the key to so many important researches, from being mistaken for actual diagnosis. It is the deductions from the whole of the physical signs and functional symptoms which constitutes the diagnosis, not the naked examination of a single set of them. This may seem a matter which is too trivial to attract much notice; but in practice it is of much moment, and the errors which I have seen from a neglect of it are frequent, and very readily committed. It may seem to you that this is reasoning against myself, as it were, and attacking the subject upon which I lay so much stress; but, in professing to give a course of lectures on diagnosis and treatment, I am necessarily led to an enlarged study of pathology, and to the view of the subject which seems to me most consistent with facts,—that is, one embracing the relation of the phenomena one to another. I am also unwilling that you should diminish the value of positive observation, by drawing any inferences which the actual state of the

subject will not fully warrant; this would be the case, if, at the commencement of your studies, you fall into a contracted, imperfect mode of reasoning.

After warning you thus earnestly against the abuse of the physical signs, I may proceed to point out the best method of avoiding or overcoming the difficulties which you meet with at the commencement of your studies. They depend in a great degree upon the want of fixed starting points from which the study of the subject may begin. These points are readily enough learned by those who possess the advantages of examining for themselves, after the sounds have been pointed out by their teacher; and they are, perhaps, less necessary for you. This is not the case with many of those who may read, but do not hear these lectures; and it is therefore necessary to explain fully the best mode of learning the sounds,—that is, of acquiring a sufficient number of sounds to serve as a point of departure, and guide for subsequent study. This method supposes that the sounds are analyzed and separated into their elements, and requires at first more than an ordinary share of attention; but the whole time required for learning the art is much shortened, and the subject greatly simplified.

Most of these initial sounds may be discovered in the healthy body,—that is, sounds sufficiently similar to those you meet with in disease to enable you to recognise them when they are met with; and if these are thoroughly learned, the remaining sounds, which are the most easy, are quickly acquired. You will find it to your advantage to follow very nearly the process which I shall point out, for the purpose of simplifying those sounds; for although it is less indispensably necessary, it is highly useful, and really will shorten the time and attention required.

In studying the physical signs, I follow as nearly as possible the natural method, reserving to myself, however, the privilege of deviating from it as often as may be advisable.

The physical signs, properly speaking, may

be classed under the heads of alteration in the conformation of the thorax, resonance of the chest on percussion, and the sounds yielded by respiration, or produced during the act of coughing or speaking. These constitute the signs which may be regarded as strictly physical. There are some other signs, which, although less important, are, to a certain extent, classed among the physical signs; they belong more properly to the conformation of the thorax, than to any other division: under this head I shall treat of them. These are, percussion, or giving to the patient a sudden shake, to ascertain the presence of air and liquid in the cavity of the pleura, which is rarely practised, and is, in the majority of cases, both totally unnecessary and highly disagreeable to the patient; palpation, or examining the chest by placing the hands upon it, and pressing them carefully along the lateral portions of it.

CONFORMATION OF THE THORAX.

The thorax, it is well known, resembles an irregular truncated cone. It is flattened on each side, and presents numerous inequalities, depressed in one part, and elevated in another. For the convenience of study, it is usual to examine it anteriorly, posteriorly, and laterally. Of these surfaces, the lateral, or the axillary, are the most regular,—the posterior, the least so. The walls of the thorax do not represent precisely the space occupied by the lungs and heart; for the liver, spleen, and stomach, encroach slightly upon the lower part of the cavity. This is particularly the case with the liver, which rises on the posterior part of the chest, nearly half an inch higher than the corresponding boundary on the left side. On the whole, the lower boundary may be represented by a line drawn from the spinous process of the twelfth dorsal vertebra, to the lower bone of the sternum: on the left side the boundary begins also at the twelfth dorsal vertebra, but passes at a distance of half, or at least one-third of an inch higher, until it reaches the praecordial region. The lower boundary of the chest, as thus defined, is not always the same, as the size of the liver is of course variable, and the dimensions of the thorax are necessarily influenced by this circumstance. This line is not followed with perfect regularity, especially on the left side, where the heart passes a little beyond the limit of the adjoin-

ing part of the chest. At the upper boundary, the difference of the two sides is less; on the right it sometimes rises a little higher than upon the left, from the greater development of the muscles and bony parietes of the thorax on that side; but this difference is, in general, so slightly marked, as scarcely to attract attention. The lungs extend a little beyond the clavicles, especially during the act of full inspiration, not exceeding half an inch. At the posterior part of the chest: the upper boundary is formed by a line drawn from the upper dorsal vertebra, outwards and downwards towards the point of the shoulder.

When the conformation of the thorax is perfectly normal, it presents an irregular plane in each of its four ribs; but the angles of these planes are sufficiently rounded to retain a general conoidal shape. Each side of it offers several elevations and depressions; at the anterior part these correspond with peculiarities of form of the viscera, and are really formed by the parietes of the chest; these irregularities of form at the posterior part are owing, in great part, to the muscles, and to the scapulæ. The clavicles form a ridge, which is slightly arched; the space above them is therefore depressed, except the patient be extremely corpulent, or labour under a disease of the lung or pleura. Beneath the clavicle, another depression, but one much shallower, exists; it extends to the lower part of the second rib. The space below this depression is slightly and regularly convex as far as the upper edge of the liver; at that level there is, in many persons, on the right side, a slightly depressed line, which corresponds with the interval between the liver and the lungs, on the left side, in young persons. There is often a prominence corresponding to the heart; this is slightly marked, and never divided, as it is in cases of real disease of this organ, or effusions within its investing membrane.

The lateral portions of the chest are regularly bulging from the apex to the base; and as the walls are here thinner than elsewhere, and nearly without muscles, the external form corresponds nearly to the lungs.

The posterior surface is rendered irregular by the scapulæ; but at the part uncovered by this bone its form is nearly as regular as that of the other portions, gradually widening

towards the base of the chest. A slight depression, or gutter, exists on each side of the spine, for the reception of the dorsal muscles. The lower and posterior portions are often dilated from effusion into the pleura, and yield to the pressure of liquid with great readiness. The upper part is not changed in conformation, except the quantity of liquid be very large. The contraction of the chest is also extremely obvious at the lower portion after the absorption of pleuritic effusions.

In children the form of the chest is much more rounded than in adults; and in women, although the exterior seems more irregular than in males, yet the proper bony parietes are much more regularly formed, and are more conoidal in form.

The conformation of the chest, it is well known, is often characterized by individual peculiarities. Thus, some individuals are called chicken-breasted, from the prominence of the sternum, and others present a well-marked depression at the lower portion of this bone, which is sometimes congenital, and at other times is caused by trades or occupations which oblige the followers of them to work in a constrained posture, leaning forwards; this is particularly the case with shoemakers, who nearly all present this depression after working at their trade for a few years. Other individuals, who are thin, and of a feeble constitution, offer a remarkable contraction of the parietes of the chest; but, in all these cases, the contraction is more or less general, instead of being confined to a single part of the chest.—When it depends upon disease it is much more local, and is caused in nearly every instance by pleuritic adhesions, which draw the walls of the chest towards the lungs. Enlargement of the chest, beyond the natural average, is nearly as frequent as contraction. When it coincides with a general development of the body, and evidently depends upon a stout and large frame, it is of course indicative of health, rather than disease. The morbid dilatations, properly so called, are local, either limited to a part, or to the whole of one side of the chest; on this account they are readily recognised. They depend either upon an abnormal development of these organs, or upon dilatations caused by effusions of air or liquid into the serous or mucous cavities of the chest.

The comparison of the two sides is requisite, in order to recognise dilatations or contractions of the chest; and the thorax must be examined throughout in nearly every position, so that its true and relative dimensions may be ascertained.

It is not necessary that the chest should be exposed in order to examine its conformation, although this is much more convenient than to inspect it when covered. When no objections exist to exposing the chest, the patient should be placed in a sitting posture, or remain erect; if that be impossible, he should lie upon his back, and quite straight, so that the light may fall upon his chest: a cross light may of course give rise to error. The patient should then remain at rest, with his arms lying quietly by his sides, or slightly crossed, if the posterior part of his chest be examined; in this way the whole of the anterior or posterior surface may be taken in at a glance. An examination of this kind is, of course, not practicable, in cases of women, or of patients who are sweating profusely: under such circumstances, you must content yourself with the partial inspection which is practicable when the body is more or less covered by clothing, and you may aid in this examination by passing the hands lightly over the thorax. The examination by the touch is especially convenient for the posterior and lateral parts of the chest, where the morbid dilatation is generally most considerable.

The examination by the touch is called palpation, but I do not think it at all necessary to multiply terms in the description of the methods of physical examination. Palpation, then, is nothing more than the examination of the chest by means of the touch; it aids the sight, and often may be substituted for it when the patient is too thickly covered. The hand forms, as it were, a kind of natural callipers, and will give very accurate results. If you examine the lateral and inferior portions of the chest, you may place the whole palmar surface of the hand upon it; if the anterior and upper portions be examined, the fingers may be passed lightly over it. In this way you can detect any abrupt deviations from the natural conformation, but a general and moderate rise or depression cannot be detected except by the sight. If you cannot resort to this means of investigation, you must content yourselves with the other physical signs.

Dilatation of the chest is necessarily produced by all diseases which give rise to enlargement of the pulmonary vesicles, or to distention of the pleuræ. Those which act upon the pleuræ are inflammation, the products of which are serum, lymph, and purulent matter, or dropsy, in which the secreted fluid consists merely of serum. The effusions arising from pleurisy are nearly always confined to one side of the chest, take place rapidly, and are much more local than those of hydrothorax, which extend over a large surface, and are not confined to a single lung. Hence the pleuritic distention begins chiefly at the base of the lung, and extends upwards, involving the whole of one side only in these cases, in which the quantity is extremely great. Pericarditis gives rise to dilatation from the same cause as pleurisy, and the prominence follows very nearly the shape of the pericardium, and is therefore somewhat triangular, the small extremity upwards. The extreme dilatation which takes place in severe cases of pleurisy, in which the whole side of the chest is enlarged, elevates the shoulder, and gives the whole body an inclination towards the healthy side. This is often evident when the patient walks or sits in the erect posture. The effusions of liquid in the serous membranes give rise to the most decided, and, as it were, abrupt prominence of the chest; which the dilatation produced by enlarged vesicles is, in general, less decided, or, at least, more gradual. It gives rise to a more equable and moderate bulging of the chest, than that from effusions of liquid into the serous cavities. Of course it is most marked near those parts of the lung where the vesicles are most frequently dilated,—that is, along the anterior portion of the chest, on each side of the sternum; but, if it involve a large portion of the lungs, the shoulders are sometimes elevated, and the space above the clavicles becomes prominent, instead of offering a slight depression, as it does in the natural state.

Contraction of the thorax is a consequence of many diseases in which pleurisy has occurred, whether as a primary or secondary lesion; hence it is most marked in cases of primary pleurisy, especially where the quantity of effused liquid has been large. In the secondary pleurisy which follows or accompanies phthisis, contraction almost invariably takes place, and usually

occurs near the summit of the lungs, so that the natural depressions, both above and below the clavicle, are exaggerated. Sometimes the depression reaches to the lower portions of the lung, as in ordinary pleurisy. The latter variety usually follows those cases of phthisical pleurisy which have commenced in the ordinary way, and in which the development of tubercles takes place rather late in the disease, after the inflammation has ceased, or at least has diminished. The general rule holds good, that contraction is evidence of previous pleurisy,—the exceptions are nearly all of a doubtful nature. In a few rare cases the tissue of the lung contracts from the partial or complete cicatrization of a cavity, or of an inflammation, although the attendant pleurisy may not be sufficiently extensive, or the adhesions strong enough to account for the depression. In these cases we are bound to admit that the pressure of the atmosphere has filled up the vacuum which would otherwise have been left. In the depression which follows pleurisy, it is true that the process is somewhat similar, as I shall show when speaking of this disease, but it is less strictly physical, and more dependent upon the contractile power of the adhesions. The absorption of the effused liquid in pericarditis does not give rise to a decided depression; it sometimes exists, but only in a slight degree.

I have given to you the general indications derived from an examination of the form of the thorax, and rely, as you may observe, chiefly upon the results which are derivable from the sight and touch. In a few cases the chest may be measured on the two sides, in order to estimate the difference in the semi-circumference more exactly, by passing a tape around the thorax, from the extremity of the spinous process of a vertebra, then marking the point corresponding to the middle of the sternum, and afterwards comparing the two parts extending from the sternum to the spine together. The seventh or eighth dorsal vertebra is the most convenient for this purpose. The measurement which is thus obtained is, of course, correct; but it applies only to those cases in which the difference is very evident, unless the dilatation occurs in the left. In the latter case the increased dimensions are readily perceived; for the right side is naturally larger than the left, and the difference is more or

less according to the habits which the individual may have of exercising the right arm, more than the left: a difference in favour of this side would therefore be comparatively of little moment. Mensuration is of little value.

There is another mode of exploration which is termed succussion; it belongs to this part of the course as properly as to any other. I use the term merely to explain to you the method of performing it, not to advise you to resort to it. The method itself is sufficiently simple, and consists merely in placing the hands on the shoulders of the patient, and giving him a sudden jerking motion. If both air and liquid are contained in the cavity of the pleura, a gurgling, almost a splashing sound, is produced. There are other methods of investigation which are sufficient to make this state of things perfectly evident, so that we need not in any case resort to succussion.

FOREIGN CORRESPONDENCE.

LETTER FROM PROFESSOR MARTINS.

No. VII.

Proceedings of the Société Médicale d'Observation—Meeting of the 14th March, 1840—M. Louis, the President, in the chair.

To the Editors of the Medical Examiner.

M. LEGENDRE, interne at the hospital *La Pitié*, read the following case of *Pleurisy of the Right Side, followed by Hydro-pneumothorax.*

A MAN named Lebrouillard, aged thirty-seven years, a sausage-seller, born at Le Mans, entered La Pitié the 5th September, 1839. He is a man five feet three inches in height, of chesnut hair, hazel eyes, and considerably emaciated in his limbs. The last phalanx of every finger is large, with the nail curved in, so that the finger terminates like a club. According to the patient, this deformity has existed only since the attack of the disease. He has considerable intelligence, and gives a very good account of himself previous to his entrance into La Pitié. His mother was a stout and healthy woman, who fell a victim to some epidemic; his father is still alive, and, although sixty-six years of age, works as a day-labourer. He has two sisters, likewise healthy. He was vaccinated in infancy, and does not remember to have had the measles. He was, however, up to the age of ten or twelve, subject to eru-

tions on the hairy scalp, which produced enlargements of the cervical and submaxillary ganglia, which terminated by resolution. At fifteen years of age he came to Paris, and was put apprentice to a sausage-maker. His health was always excellent; he committed neither alcoholic nor venereal excesses, drinking only about three or four small glasses of brandy every morning. A hard worker, he often exposed himself to the cold while in a perspiration, but was not particularly subject to colds during the winter. His respiration was long, and he could run a considerable distance without being out of breath.

In the month of December, 1836, he was seized for four days with irregular chills, followed by smart flushings, and he does not remember to have suffered from a stitch in the side. The fourth day, he was copiously bled twice in the day; the next morning a considerable number of leeches were applied to the epigastric region. After the bleeding he began to cough; and the attacks of coughing gave him great pain in the breast, especially on the right side. The physicians called at the onset of the attack, ausculted him, and pronounced him to be labouring under a pleuro-pneumony of the right side. The loss of blood had singularly weakened the patient; he remained three months at his master's, without completely recovering. He coughed constantly, and expectorated opaque and greenish sputa. He was treated merely by lozenges and demulcent drinks. He then determined to return to his native country, whither he transported himself by the diligence, and, when arrived, remained in bed for four months longer. At this time he noticed that the right side of his breast projected more than the other. During the last two months of his confinement to bed, he was put upon the use of the juice of cresses, in the dose of two spoonfuls a day, roast meat and wine. When he began to rise, he was each time taken with a violent fit of coughing, with copious expectoration of thick and greenish sputa. He never spit any blood. Milk was at this time his only nourishment, which he digested with difficulty, without, however, rejecting it from his stomach. He had no continuous diarrhoea during this whole period. Fifteen months before his entrance into the hospital, about June,

1838, his sputa became all at once fœtid, without this phenomenon's being accompanied by any new morbid symptoms. This fœtidity was constant. Five months after, the right side of the breast began to show gradually diminution in size. The patient, in whose condition there was no change, decided to return to Paris in the month of January, 1839. He entered first the hospital La Charité, in the wards of M. Andral, where he remained for five weeks under the use of common tisan. He then passed under the care of M. Louis, at the hospital Beaujon; but the fœtidity of his sputa was such as to incommod all the patients in the same ward, which was small, as is the case with all the wards of this hospital. L. was transferred to the hospital La Pitié, under the care of M. Mailly.

The 8th of October, 1839, his condition was as follows:—Limbs emaciated; no strength; skin earthy, a little dry, without being hot; no sweats. Pulse eighty, regular; no palpitations. Tongue moist, rosy; appetite good; no diarrhoea. He has, however, a sensation of pain shooting across the abdomen, below the umbilicus. So long as the patient is in bed, he has no cough; but as soon as he rises, he is taken with cough and copious expectoration. The cough is cavernous, loud; the sputa opaque, greenish, irregular in form, and floating in a syrupy and transparent liquid. Their odour presents curious alternations: sometimes they exhale a very fœtid, gangrenous-like smell, which disappears, and again immediately returns. The same may be said of his breath. This fœtidity is connected with an amphoric respiration, which disappears with it, but constantly accompanies it. The metallic tinkling has never been heard. The patient thinks he can perceive that the sputa come from the right inferior side of the breast; there seems to him to exist there a sort of reservoir, which by turns fills and empties itself by expectoration, morning and evening. The cavity once empty, the patient is tranquil. During the month of August, M. Louis estimated at two pounds and a half the sputa expectorated during twenty-four hours; it would now take him three days to throw up the same quantity. The breast presents a very visible sinking in, on the right side. On this side, the breast is nine lines less in circumference than on the

opposite side. Percussion is sonorous on the left side; the respiration is pure, the beatings and sounds of the heart normal. On the right the percussion is sonorous to the extent of four fingers' breadth below the clavicle; below this point flatness commences, and extends below. A slight respiratory murmur is heard throughout the sonorous region. Posteriorly, on the right, flatness and absence of the respiratory murmur; no modification in the auscultation of the voice, neither resonance nor bronchophony. At the moment of examination, the sputa not being fœtid, there is no amphoric respiration, nor rhonchus, nor gurgling. Prescription—pectoral ptisan, jalap of syrup of poppies, fumigations with six drops of chlorine.

10th and 11th of October.—Amphoric respiration in the two inferior thirds of the breast, mixed with a little mucous rhonchus; fœtidity of the breath and sputa. On the 11th, the mucous rhonchus is transformed into a true gurgling.

16th. Amphoric respiration and fœtidity of the breath and sputa continue; but are much less marked.

18th.—Discontinuance of the amphoric respiration, and of the mucous rhonchus; the breath and sputa no longer fœtid.

20th to 26th.—The amphoric respiration has reappeared, accompanied by fœtidity of the sputa.

30th.—The patient is seized with suffocation so as to endanger his life. Sinapisms to the soles of his feet; blisters to the thighs.

4th of November. The attack of dyspnœa has not returned; but, from this period, the patient is weak and without appetite; he scarcely eats at all, and his chest presents alternations of amphoric respiration and absence of all abnormal sounds.

15th.—For the last four or five days, the patient has experienced momentary attacks of dyspnœa, without, however, being forced to sit up; he does not expectorate the same quantity, the sputa are no longer fœtid, and the amphoric respiration has disappeared. Pulse seventy, regular; appetite none. Six wet cups to the base of the sternum.

23d.—In the night the patient suddenly expired, without having offered any other remarkable phenomena, preserving conscious-

ness to the last moment. From the 15th of November his condition had been the following: Little fever, paroxysms of dyspnoea from time to time. The cough had nearly ceased, and the expectoration was insignificant. The breath and sputa were without smell; no amphoric respiration; weakness so great that the patient was obliged to be assisted in sitting up for auscultation. Complete loss of appetite; no derangement of the bowels.

Autopsy, the 25th of November, in the morning. No appearance of decomposition; cadaveric rigidity pretty well marked. The right side of the chest evidently sunken in. The organs of digestion, the brain, and the bladder, do not offer the slightest trace of alteration.

Chest. The *left* lung adheres throughout closely to the costal pleura by a very compact (but not fibrous) cellular tissue. The lung on this side is soft, crepitates, but has scattered throughout it a multitude of gray granulations, semi-transparent, of the diameter of a millet-seed. Towards the summit are found two tubercles of the size of a hemp-seed, white and friable, apparently having a tendency to pass into the cretaceous state. This pulmonary tissue floats readily, and contains no cavity.

The *right* lung occupies the superior portion of the thoracic cavity. It is only five or six inches in height. At least a half litre of viscid, thick, greenish, fœtid pus, almost completely fills a cavity, the walls of which are formed, above, by the base of the right lung, below by the walls of the chest and by the mediastinum. The walls of this cavity are covered by a membrane at least a line thick, grayish, very dense and resisting, in a word, of a fibrinous character. In some points, this false membrane is covered with thin, soft, pseudo-membranous coatings; at other points are seen irregular calcareous concretions, three or four lines in diameter. Finally, towards the internal portion of the base of the lung, the pseudo-membranous coating passes into the fibrous state. Instead of being grayish, as at the other points, it is of a deep red colour. At the centre of this surface so coloured, are three little openings, from half a line to a line in diameter, which lead to a bronchia five lines in circumference. The internal surface of this bronchia is of a deep red, and has a grainy structure. The

mucous membrane appears a little thickened, without, however, being softened. Immediately above the fibrous membrane which supports the base of the lung, the pulmonary tissue is condensed, is of a greenish colour, and exhales a fœtid odour. Its cohesion is very great, and this circumstance is incompatible with all idea of a gangrene of the lung; it floats very readily. The indurated tissue occupies a height of about an inch of the base of the lung; above, the parenchyma is soft, supple, and crepitating. It is only at the summit, that are found gray semi-transparent granulations, of which some, the size of a hemp-seed, offer a white colour in their centre. In fine, these granulations are less numerous than on the other side, and none are observed at the base. In blowing into the trachea, the purulent liquid contained in the pleural cavity was caused to bubble. The ribs of the right side were thicker than those of the left—about seven or eight lines in diameter.

Remarks by the author, (M. LEGENDRE.)—The habitual good health of the patient, the absence of hemoptysis and of other symptoms as regards the respiratory apparatus up to the period of the attack of pleuropneumony on the right side, three years back; the progress of this affection, the increased and afterwards the strikingly diminished size of the chest, coinciding with the fœtidity of the sputa; the absence of physical signs of tubercles on the left side of the chest, and even on the right side under the clavicle—would all induce me to suppose that this hydro-pneumothorax was the result, not of a tuberculous ulceration of the pulmonary tissue, which terminated in effecting a communication between the external air and the pleuritic effusion. The autopsy, I think, has confirmed this opinion. For, in fact, in the midst of a crepitating pulmonary tissue, are found only gray semi-transparent granulations, and a very small number of tubercles in a crude state. These alterations were even in smaller numbers on the right than left side, and occupied only the summit of the lung, whilst, at the base, in the situation of the fistula, there was not the most minute granulation. There are other symptoms which demand our attention. These are, first, the alternations of disappearance and return of the amphoric respiration, which was always con-

nected with a fœtidity of breath and sputa. This fœtidity never disappeared without a similar disappearance of the amphoric respiration. These intermissions can be explained only by supposing alternations of obstruction in the pleuro-bronchial fistula. Secondly, is to be remarked the flatness, which was established by percussion, in place of the extreme sonorousness which usually accompanies hydro-pneumothorax. This difference may be explained by the long standing of the disease. Thus, at the onset of the perforation, the extreme sonorousness may have existed, then have gradually ceased, from the fact of the contracting of the abnormal cavity. Thirdly, we should notice the absence of the metallic tinkling, which, however, no attempt was made to elicit, by practising the Hippocratic succession.

Debate on the preceding case.

M. FAUVEL would be glad to have some details respecting the calcareous concretions found in the pleural cavity. He did not agree with the opinion of M. Legendre, but considered the pleuro-bronchial fistula as the result of a tuberculous ulceration. The frequency of ulcerations of this character, the extreme rareness of a simple ulceration, besides the existence of tubercles in the midst of the pulmonary tissue, he deemed sufficient reasons to reject the opinion put forth by the author.

M. LEGENDRE, in reply, stated, that the calcareous concretions were irregular, and were found upon the free surface of the false membrane which lined the costal pleura. He could not relinquish his view of the cause of the perforation.

M. VOILLEMIER was anxious for further details touching the increase followed by decrease in the volume of the chest, the sputa, and the pathological anatomy of the fistulous passage.

M. LEGENDRE replied that he had not witnessed the changes in the volume of the chest, but had gathered them from the statement of the patient; he re-read the portion of the case where the sputa and fistulous passage are mentioned.

Dr. BARTH wished for some details respecting the cough, and the mode in which the sputa were expectorated; he regretted that the author had not stated whether the flatness were complete or incomplete, that he had not

compared posteriorly the results of percussion in the right and left supra and infra-spinal fossæ, nor indicated the point where the amphoric respiration showed its maximum of intensity. He agreed with M. Fauvel with regard to the cause of the perforation of the pulmonary tissue.

M. LEGENDRE replied that the flatness was nearly absolute; it was under the inferior angle of the shoulder-blade that the amphoric respiration was best heard.

Dr. VALLEIX asked if the dyspnœa was continuous or paroxysmal, and whether a false membrane lined the mucous membrane of the fistulous passage: he agreed with the opinions expressed by MM. Fauvel and Barth.

M. LEGENDRE: The dyspnœa, which was marked only in the latter stage of the disease, was paroxysmal; there was no false membrane lining the bronchial mucous membrane.

Dr. GRISOLLES adverted to the omission to state whether œdema existed in the right thoracic paries, and whether the fistulous opening was furnished with any kind of valve, as has been noticed in some analogous cases. Dr. Grisolles, while taking the same side of the question as MM. Barth, Fauvel, and Valleix, admitted that there was one circumstance in favour of the opinion of M. Legendre—the absence of the sudden, instantaneous symptoms which accompany a perforation of the lung, the result of tubercle.

M. LEGENDRE: There was neither œdema nor appearance of valves. I closely interrogated the patient for the purpose of ascertaining, if, at any period, he had experienced any sudden aggravation of his symptoms, and he invariably replied in the negative.

M. FLEURY, formerly interne of M. Louis, who had noted the case at the hospital Beaujon, confirmed the principal facts stated by M. Legendre. He had never heard metallic tinkling.

Dr. BARTH remarked, that the position of the fistula, in relation to the liquid, might explain the absence of this abnormal sound.

Dr. LOUIS said, that, in defence of his opinion as to the perforation of the lung, M. Legendre had dwelt upon the absence of an intermediate cavity, attributable to the softening of a tubercle, between the bronchia and the fistulous opening. This cavity, Dr. Louis observed, does not always exist in cases of tubercular perforation. Dr. Louis coincided with

the opinion expressed by MM. Fauvel, Barth, Grisolle, and Valleix, respecting the origin of this perforation.

BIBLIOGRAPHICAL NOTICES.

The Salt Sulphur Spring of Virginia. By THOMAS D. MÜTTER, M. D. Philadelphia, 1840.

Dr. MÜTTER visited the Virginia Springs in 1834 and 1839, and while there, "having been, from a variety of causes, forced into a very extensive practice," he is induced to make public what he had collected relative to the therapeutic influence of the different springs. He informs us, that he proposes to devote a pamphlet to each of these waters, and commences in the one before us with the "Salt Sulphur." Dr. Mütter evidently writes more for the general than the professional reader, for "the fashionable man and the victim of disease," rather than the physician, and cannot therefore claim a very extended notice of his brochure at our hands. He has given us a pleasant and detailed description of the Salt Sulphur spring, including situation, scenery, means of access, "accommodations, table, and bar,"—with the diseases to which it is applicable, the proper mode of its employment, and a long list of certificates to the curative properties of the waters, as well as to "the unwearied attentions of the host, and satisfactory arrangements of his establishment." To the visiter to the Virginia Springs, Dr. Mütter's pamphlet will be an invaluable *vade mecum*—which, we have no doubt, does nothing more than justice to the waters of the Salt Sulphur, and the hospitable host who dispenses them.

Transactions of the Medical Society of the State of New York. Vol. IV.—Part III.

The volume of the *Transactions of the Medical Society of New York*, just published, is replete with useful and interesting information. The *Statistics of Medical Colleges* is a paper of great value, both for present use and future reference. Dr. Hull's address on improvement in medicine, Dr. Purple's address on professional duties, and the report of a committee of the society on medical education, are well written pieces, presenting interesting views on topics that repeated discussion has

rendered somewhat threadbare. A lengthy and elaborate essay of Dr. Davis on diseases of the spinal column, and a rare case, reported by Dr. M'Naughton, which we have marked for future insertion, make up the present highly interesting volume of transactions.

FOREIGN SUMMARY.

Inhalation in Tubercular Phthisis Pulmonalis. By SIR CHARLES SCUDAMORE.—As the practical consideration of any new remedy which may be proposed for the relief of disease, must be one of the useful purposes of a periodical journal, I trust that some further observations on the question of Inhalation in Tubercular Phthisis Pulmonalis, and in Chronic Bronchitis, may be offered to you as an acceptable contribution.

It was in 1830 that I published the first edition of my *Cases in illustration of the subject*; and therefore I may lay claim to a very extended experience of this particular method of treatment, and to the consequent opportunity of forming a more mature judgment of its merits. But I wish, in the first place, to be understood as speaking of this remedy in the light of an auxiliary, and one not exclusive of other treatment. It is to be considered that every practitioner, in consenting to adopt this treatment, may at the same time employ those general means in which he is accustomed to confide. I believe that I have derived from this method of practice more success, and a larger share of satisfactory result, even where cure was not attainable, than the majority who have adopted it. This I can only explain from my greater study of the action of remedies administered in the way of inhalation; from my greater confidence in their power and usefulness; and consequently a more patient perseverance in their employment. Yet I do possess a large collection of professional testimony in favour of the inhaling treatment, and some of which I have already published. It is probable, however, that the larger part of the profession may not have paid any attention to it. Some, from theory only, never having made trial of inhaling, or even witnessed its effects, condemn it, as a hurtful irritant to the lungs. Some, on the other hand, also from theory, regard it as a feeble, doubtful, and very troublesome method. Others assure me that they have given a very fair trial to the inhalation of iodine and conium in consumption, according to my recommendation, with eventual failure, as with all other means of treatment of this lamentable disease, although at first much pleased with the remedy, and greatly encouraged with the hope of success. There are a few who pass a strong censure on the mode of receiving the medicated vapour by the tubes of the glass inhaler.

I shall endeavour to offer a running commentary on the several points which I have here stated.

I affirm that the inhalation of iodine and co-nium so far from irritating the air passages, either in tubercular phthisis or in chronic bronchitis, proves more or less soothing, provided it be used of proper strength, and that inflammatory action be not present—pleasingly soothing, I repeat, independently of its more remedial power, of which I shall have to speak. Notwithstanding the certain trouble of the process, the patient looks with pleasure to the hour of repeating it, from his confidence of receiving relief.

There may be some of the profession who, having witnessed very untoward effects from the internal administration of iodine, or occasionally, even from its excessive employment externally, dread its use even in the way of inhalation; and, as I now and then read in print, speak of the evils of this potent medicine so employed. But what remedy or treatment, either in the hands of the physician or of the surgeon, would not fall into discredit and even odium, if its merits were to be adjudged from the occasional accidents which arise, whether to be referred to the unfitness of the case, or particular symptoms temporarily existing; to error in the doses or mode of administration; or to idiosyncrasy of constitution in the individual, which renders him an unfair example of the merits of the remedy employed? This position might be illustrated by a thousand examples. Some declare they would endure any pain, or continued loss of sleep, rather than swallow the least portion of opium, having experienced in their system, its distressing effects. Others, who from a few grains of blue pill have incurred a very severe salivation, would expect death itself to ensue from even a moderate use of calomel.

There are again others who call in question the efficacy of inhalation, and denounce it as a feeble and uncertain mode of practice, inferior to the routine administration of medicines by the stomach. Amidst such conflicting opinions and prejudices, who shall determine the truth?

“Utinam tam facile vera invenire possem, quam falsa convincere.”—Cicero.

It might be supposed that time alone would serve to decide the real pretensions of any remedy introduced into general use; but in reality the influence of fashion extends even to medicines; as we have often seen that a favourite remedy, popular alike with the profession and the public, has, after no distant interval, been condemned, discarded, and forgotten. Yet it has again been the fate of several medicines so discarded to return into favour, and enjoy a fresh reign.

It is therefore extremely difficult to discover the truths of physic, and to establish on solid grounds the just claims to confidence which

any particular medicine, or mode of treatment, may really possess. Preconceived opinion and prejudice too commonly stand in the place of reason and dispassionate inquiry, and oppose the advance of truth. The dangerous nature of consumptive disease, and its great fatality, should rather serve to stimulate our industry to discover some method of lessening the force of the scourge, than to be passive spectators of its dire results. The high authority of Laennec may probably have had some influence in confirming the general opinion of the incurable nature of phthisis pulmonalis. The distinguished author observes (Forbes' Translation, p. 305:)—“The observations contained in the Treatise of M. Bayle, as well as the remarks made in the present chapter on the development of tubercles, sufficiently prove the idea of the cure of consumption in its early stage to be perfectly illusive. Crude tubercles tend essentially to increase in size and to become soft. Nature and art may retard or even arrest their progress; but neither can reverse it. But while I admit the incurability of consumption in the early stages, I am convinced, from a great number of facts, that in some cases the disease is curable in the latter stages—that is, *after* the softening of the tubercles and the formation of an ulcerous excavation.”

The attempt, therefore, to treat tubercular phthisis by any novel mode, with the expectation of success, is thought probably to wear the appearance not only of presumptuous boldness, but of the vain pretensions of quackery* itself. Far be it from me to speak in any light terms of this fearful disease, or to boast that I have certain means of cure at my command, in any case which may present itself.

I have now enjoyed no short term of medical life, and can well remember the results of different methods of practice in this disease in former years, without any success resulting. For a long period it was a favourite practice to put the patient on very slender diet, perhaps of milk, vegetables, and fruits, exclusively; and especially on the use of digitalis at the same time; on the theory of procuring a quiet state of the circulation, and preventing irritation and over-action of the lungs, by keeping

* I have occasionally met with observations of this nature applied to myself, with reference to inhalation; but they have always been either deficient in courtesy, or so stamped with scurrillity, and vulgarity of style, that they have never called for my serious notice, or more than my silent contempt. Written in the same spirit of low detraction, some letters have lately appeared in the *Lancet*, doing equal discredit to the head and heart of the writer, respecting the London Dispensary for the Diseases of the Lungs. The prosperity of the institution will be the best refutation of such puny attempts to injure either the Charity itself, or its Medical Officers.

the formation of the blood within the narrowest limits, as to its quantity; and abating its stimulating quality also, by lessening the density of its red particles.

Finding the constant failure of this and other modes of treatment, about twelve years ago I first made trial of the inhalation of iodine and conium, not having then heard of any experiment of the kind being made by others. I was gratified by a degree of success which I had never obtained from any other means; and I published some of my results in November, 1830. But great as is the importance which I attach to this one remedial method, I should be sorry to have it supposed for one moment that I would depend on it alone. On the contrary, I am fully aware how essential a matter it is to treat the whole constitution; such treatment being modified according to the circumstances of the individual case. As a general principle, I am an advocate for a very supporting plan of diet, and the use of corrective tonic medicine, combining with it the occasional careful administration of *alteratives*. Good air, the avoidance of vicissitudes of temperature, while, at the same time, a due ventilation is well maintained in all the apartments which the patient occupies, are points of great importance. It is not sufficient that we attempt to relieve the lungs from the irritation of tubercles at present existing; but we must endeavour to remove the tubercular *diathesis*, and counteract the tendency to fresh formation of tubercles. Hence it follows, also, that when a consumptive patient may have had the good fortune to be benefited by treatment to the extent of a tolerable recovery, it is incumbent upon him to lead a life of exceeding care afterwards, in regard to diet and regimen, clothing, place of residence, and in every material particular relating to health; in order that a relapse may be prevented.

It is a question of the highest interest to consider whether we may not, in contradiction of the gloomy declaration of Laennec, undertake the cure of the early stage of tubercles, with the hope of success? I have, in numerous instances, by means of inhalation, and *combined* treatment, succeeded in removing the early state of tubercular irritation, and which had been clearly manifested by the signs revealed by auscultation and percussion, by great elevation of the animal heat, and by the concurrent symptoms of cough, short breathing after quick exercise, frequency of pulse, hectic fever of greater or less amount, wasting of the body, and loss of strength.

As an example bearing exactly on this point, I will advert to the case which I published in the second edition of my work on Inhalation, &c., p. 66, I stated, in the observations on the case, p. 73, that, from the several indications, it was reasonable to believe that tubercles existed. The recovery of the patient under the treatment adopted was most satisfactory.

He remained quite well for upwards of a year, and continued so, with a slight exception, for a much longer period, enjoying the sports of the field, and displaying great strength of body in his various exertions. He resided in a distant part of Scotland. But, presuming most imprudently on his state of recovery, he committed excesses at the table, with late hours at night, and carelessness of exposure in the day. Under these circumstances he was attacked most severely by the epidemic influenza, from which he never fairly recovered. He came under my observation about a year afterwards, when, upon examination, I found, on the upper part of the right lung, the clearest signs of the existence of a cavity. The pectoriloquism was most strongly marked. The left lung was also much diseased. Under a course of treatment he amended greatly; but again having neglected himself, and suffering from a fresh attack of influenza, he relapsed into a hopeless state, although he combated with his disease for a considerable length of time.

Is it not evident, from the indications by auscultation, as well as from the physical symptoms stated in the work referred to, that the right lung was tuberculated when I began the treatment in March, 1830? and that the remedies removed all irritation of the lung? For, according to his own cheerful letter, six months after, he described himself as strong and fat, and without cough. Whether absorption of tubercles had taken place, or a change in their condition been produced, or that the state of the lung was so altered as no longer to be irritated by the tubercles as foreign bodies, would be matter of theoretical speculation. It will, perhaps, be said that it was not a recovery, because he afterwards died from the disease: but he did enjoy a long season of health; and, had he led a prudent life, might probably have avoided the subsequent danger which he incurred.

The lady, whose case I relate at page 138 of the work before mentioned, is at the present time enjoying very comfortable health; and her lungs, as I had lately the opportunity of ascertaining, are quite free from all signs of disease. Nine years, therefore, have elapsed since the period when I first visited her, and found her in the state which I described at the time in the following words:—"She was very much emaciated, was so extremely weak, with such hollowness of cheeks, and such looks of sinking, that my first impression was that of distress from the apprehension that the case was beyond the reach of any medical treatment. The pulse ranged from one hundred and twenty to one hundred and thirty, and was occasionally more frequent; the cough was violent, and so peculiarly harassing at night, that the sleep was constantly disturbed. The expectoration was difficult, partly coloured with blood, the whole of a very puriform appearance, and in

quantity about four ounces in the twenty-four hours. There were morning and evening accessions of hectic fever. The night perspirations were so profuse, as completely to saturate the sheets with moisture. She was so reduced in strength, that she required to be carried from the bed to the sofa in the adjoining room. At the upper part of the right lung there was pretty well-marked pectoriloquism and strong *gargouillement*."

This quotation from my narrative of the case will be sufficient to show its great importance, and the value of the treatment. Fortunately for my exertions, this lady, distinguished in her character by every estimable quality, possessed that first of virtues in a patient—entire obedience. She did complete justice to all my recommendations, and was eventually rewarded with a return of health.

The patients, whose symptoms of tubercular phthisis, with the treatment, have been fully described in this Gazette, have not had any relapse, and are now enjoying excellent health, a period of rather more than five years having elapsed.

In the following case of a young lady, aged twenty-four, whose sister had died from consumption, the inhalation of iodine and conium rendered the most satisfactory relief and lasting benefit.

In the history which she gave me of her case, she stated that, in the year 1830, she had fallen into a very delicate state of health, in consequence of a chest complaint. She went abroad, in the hope of re-establishing her health; and which object was in a great measure effected by residing five months at Nice. Yet, living again in England, she experienced a relapse of her disorder in 1832; and such was the delicacy of her chest, that any slight exposure to a damp or cold atmosphere was almost certainly followed by pulmonary disturbance; her symptoms being, shiverings, succeeded by heat of skin and perspirations; cough and shortness of breathing; with a general soreness of the chest, and a sense of constriction, attended with debility and great depression of spirits.

Under such circumstances I was consulted; and, upon examination of the chest by auscultation and percussion, I had the clear evidence that the upper part of the right lung was much tuberculated; but on the left side the respiration was natural, with the exception of some slight râles. I adopted my usual plan of treatment, the particulars of which I will not detail. The result was most satisfactory. My patient described that she "felt from the inhaling a soothing and healing effect; soreness and pain were soon removed; and she became sensible of a freedom and expansion of the chest to which she had long been a stranger. The relief which she experienced gave her the idea of long-closed valves being re-opened and set free." After a few weeks,

all the troublesome symptoms passed away. By pursuing a careful system of management, medical and dietetic, and paying strict regard to regimen, this young lady regained her health; and, I have every reason to believe, has continued well.

In the beginning of June, last year, I was consulted by a gentleman, aged thirty-five, long an invalid from pulmonary disease. He had resided many years in the West Indies, from whence he came in what he felt to be a hopeless state of suffering. I found him in bed, too weak to leave it. There was an assemblage of the most urgent symptoms; a frequent and very weak pulse; the animal heat 99;* urgent cough, with difficult expectoration of an offensive puriform sputum,† occasionally coloured with blood; the chest much oppressed, and the breathing quick and uneasy on the least exertion, with occasional pain in the sternum and intercostal muscles: he had hectic fever, and night perspirations, which were not only profuse, but of a peculiarly faint and disagreeable odour. Sleep slight and unrefreshing; without appetite, and the functions of the liver unhealthy; much reduced in flesh, and having coldness, and considerable œdema of the ankles and feet. At the upper part of the right lung there was strongly marked pectoriloquism to a great extent, with *gargouillement*, indicating extensive cavity; the respiration almost wholly bronchial, with sibilant râles. On the left side the perspiration was imperfect in some parts, in others puerile, and there were occasional râles, but without pectoriloquism. Percussion confirmed the signs of tubercular obstruction in each lung, but especially in the right, which was scarcely in the least degree capable of its functions. The right side of the chest was flatter than the left, and rose but little in a forced inspiration. His mind was in a state of the utmost despondency; and, contrary to that buoyancy of hope which prevails in acute phthisis especially, but often also in chronic, he had a fixed persuasion that he should not recover.‡

* Without exception, I have always found a high degree of the animal heat in tubercular phthisis; showing, as I conceive, a specific irritation present, allied to inflammatory action, yet different from true inflammation.

† The nature and quantity of the sputum is highly instructive, as regards the disease in its seat, stage, and intensity.

‡ Apart from the great consideration that we are all in the hands of a Superior Power, and cannot know when we may be called away, we do see, as medical observers, the extraordinary difference in the strength of the vital principle, if I may so express myself, in different individuals. Some yield their life to apparently slight assaults of disease; while others recover under circumstances seemingly the most hopeless. Such curious results should, I grant, render the physician very modest in the boast of his art, and make him study nature the more at-

The physician who had been in close attendance for six weeks, apprehended a fatal termination of the case. The limits to which I think it necessary to confine myself on the present occasion, will not allow of minute details in my account of the treatment. The patient inhaled the mixture of iodine and conium regularly three times a day, at first for ten minutes, afterwards gradually increased to twenty; small blisters were applied to the chest from time to time: the lotion of tannin infusion, with acetic acid and eau de Cologne, was applied night and morning to the skin, followed by the use of the flesh-brush. Internally, pills composed of pilula hydrarg. camphor, and c. colocynth extract, were given at night, occasionally, followed by a morning aperient draught; a strong infusion of the cortical part of sarsaparilla, with alkali and gentian, was used twice in the day; and, to procure comfortable sleep at night, he took a soothing morphine syrup, acidulated with diluted sulphuric acid. The plan of diet was changed to one highly nutritious; and such was the languor and debility, that wine, the best port and sherry, was allowed with more than usual freedom. He usually took three or four glasses in the course of the day, in addition to a pint of sound draught porter, not only without disagreement, but with every sense of benefit. He had sometimes alarming attacks of exhaustion, at the commencement of my attendance; and he had indeed said that he was "dying from inanition." After a few weeks, iron and quinine were administered in conjunction, instead of the other medicines.

So beneficial was the whole treatment, that, in rather more than a fortnight, the specific symptoms were most materially relieved, and the strength and spirits were greatly regained. The night perspirations had nearly ceased. As a proof of the amendment of the lungs, he could, in the beginning of July, walk two or three miles, at a quick pace, without resting. He improved progressively. In September he travelled. I saw him again at the end of November, and found a remarkable diminution in the extent of the pectoriloquism, with an evident amelioration in the condition of each lung. The râles had ceased, and by auscultation* there was satisfactory evidence of a very improved respiration. The expectoration continued, but was much lessened in quantity, and almost free from its former offensive odour. It appeared to me that the tubercular cavity was in a favourable progress of healing; and certainly the whole aspect of the patient was promising for a fair recovery; for, to regain

tentively, that he may have acquaintance with all her ways.

* I may take this opportunity of mentioning that I derived considerable assistance in auscultation from placing a sheet of writing paper over the chest, and listening through this medium.

perfect health could not be expected, when so much disorganization of lungs had been produced, existing in conjunction with an unhealthy liver. In my early attendance, I was struck with his cadaverous and dark complexion; and this unfavourable omen disappeared in a few weeks. He related to me that at various periods he had experienced slight hæmoptysis. Under my own observation, in about seven weeks from the commencement of my attendance, he used a warm bath, not exceeding 96° in temperature, and was remarkably refreshed by it; but on the same evening hæmoptysis occurred; half an ounce of pure red blood issued with a cough. This hemorrhage I attributed to the excitement which the circulation had received from the bath. It is satisfactory to state that on no occasion did the inhalation give rise to this accident;* and he always felt more or less of sensible relief from it. This and other treatment was continued, with occasional intermissions, during five months, when he had regained flesh and strength; could walk six or eight miles in the day, and felt himself sufficiently recovered to return to the West Indies, for a period necessary to arrange his affairs.†

It has been my purpose to show that, in all the stages of tubercular phthisis, it is our duty to enter upon a more or less active systematic plan of treatment, and that we do so with less discouragement of success than Laennec and others have taught. Yet no one can be more aware than myself of the danger of this disease, and its too frequent mortality under every care and exertion to ward off such a termination. I always wish, therefore, to be understood as speaking of the cure of consumption in a very guarded and qualified sense. I can truly declare that I have had the gratification of very often succeeding in bad cases, where, according to all my earlier professional experience with other treatment, I should have failed.

I am not only convinced of the excellence of the remedy—the inhalation of iodine and conium—but also of its superiority, as a curative agent, over chlorine and creosote; yet, I must again observe, "let it not be imagined that I limit myself to this treatment, which I would rather speak of as a most valuable auxiliary,

* I have at present under my care a lady, who, in the course of her illness, before I was consulted, had frequent attacks of hæmoptysis, which have not been reproduced by inhalation. In case of hæmoptysis, whatever the exciting cause might be, I should suspend the inhaling till the disappearance of any blood. This patient has tubercles and a cavity. Her amendment has exceeded my most sanguine expectations.

† This gentleman was staying, during my attendance, at the house of Mr. King, surgeon, Portland Terrace, St. John's Wood, who can bear full testimony to my account of the case. To his kind care and attention the patient was much indebted.

than as the sole means of benefit." It is incumbent on us to look comprehensively to the state of all the constitutional functions; to attack the tubercular diathesis; to control to the utmost of our power the nutritive functions, from the first digestion of the food in the stomach to the succeeding processes of chylification, lacteal* absorption, assimilation, and sanguification; and to effect a change in the whole mass of blood. With this large view, we are required to combine, with the strictly medical treatment, a precise plan of diet and regimen; of exercise in the open air,† in a manner adapted to the patient's state, in the favourable season of the year; and, in weather precluding out-doors exposure, to direct the arrangement of a medium rather than a high temperature of the apartments, always paying great attention to their fit ventilation. And shall the execution of such pathological and practical views be termed empirical, and without claim to respect?

I know that, in a very large proportion of cases of consumption, there must be eventual disappointment to our hopes; but of this fact I am certain, that it is generally in our power to palliate all the sufferings; to afford very great relief; and to prolong life. It unfortunately happens, and this it has been greatly my fate to experience, that the disease has arrived at its last stage, and when extreme disorganization of the lungs has taken place, before an active plan of treatment has been adopted; so that the opportunity of rendering material benefit has been irrevocably lost. The disease does, indeed, often effect its march most insidiously; and danger is present almost before the sense of illness is felt, or at least acknowledged.

I have, on different occasions, entered my protest against sending the unfortunate patient, as is so commonly done, in a confirmed state of the disease to a warm climate; trusting for benefit almost, perhaps wholly, to its influence. This usually proves a journey to a foreign grave. Rather let us, however late the attempt, and with however poor a prospect of success, enter upon the attentive treatment of the case; and of which, according to my views and experience, inhalation will prove a most valuable part. Here let me again ask, whence the objection? All other means in which medical confidence may be placed may be equally employed without any deduction of benefit from the use of inhalation, which, in theory,

* The idea of an unhealthy action in the mouths of the lacteals, was first submitted to my consideration by Dr. Sherriffs. To the loss of their peculiar sense of discernment between organizable and disorganized matter, and the consequent indiscriminate absorption, he attributes all tubercular disease.

† The use of that most valuable apparatus, the Respirator, in certain states of the atmosphere, is very important.

from its being a direct application of a potent remedy to the seat of disease, so much recommends itself; and from which I am confident more or less of benefit will always arise. I am quite sure that every practitioner, in the treatment of a consumptive case, feels the anxious and difficult ground on which he treads, and may be well pleased to add to his expedients any one remedy uniting in itself efficacy and safety. I will not attempt to say what proportion there may be, but I regret to admit it must be large, of the cases of true tubercular phthisis which eventually resist all power of medical skill. Yet, is this a reason for supineness and indifference in the mind of a physician? As in all difficulties, let us increase our exertions in proportion to the obstacles which we meet. It is not the reproach of good remedies that they cannot heal immedicable wounds!

I cannot, I think, too often repeat, that while I claim for the inhalation so great a regard, I consider it to be only one part of the treatment required. The additional constitutional means embrace a very wide consideration. The local external treatment of the chest by proper means of counter-irritation, and by lotions and frictions, is a very important part of management.

I have never seen, from an active remedy, so large a proportion of benefit with so small a proportion of disagreement and inconvenience, as from the inhalation of iodine and conium. The method also is to be considered: and I may here remark, that many excellent remedies have fallen into odium and neglect, at different periods, from the error or abuse of their application. I am careful that all the ingredients which enter into the composition of the inhaling mixture are perfectly pure.* I recommend the following formula:

R. Iodinii puri,
Iodid. Potassii $\frac{aa}{aa}$ gr. vi.,
Aquæ distillat. $\frac{3}{3}$ v. $\frac{3}{3}$ vi.,
Alcoholis 3ii.

M. fiat mistura, in inhalationem adhibenda.

I now always prefer to add the conium at the time of mixing the iodine solution with the water; and it should be a *saturated* tincture, prepared with the most genuine dried leaves. In the commencement of the treatment I advise very small proportions of the iodine mixture; for example, only from half a drachm to a drachm for an inhaling of eight or ten minutes, to be repeated two or three times a day. Of the soothing tincture, I direct half a drachm—which I usually find sufficient; but it may be increased if the cough be very troublesome. I soon augment the quantity of the iodine, and progressively from 3j. to 3iv.; but also, then

* The various medicines to be used for inhalation may be obtained in perfect purity from Mr. Garden, Oxford street. Many other chemists, without doubt, also have the articles in question correctly prepared.

prolonging the time of inhaling, I divide the iodine dose, putting two-thirds at first, and the rest after the expiration of seven or eight minutes. If the temperature of the water be measured by the thermometer, it should be 120° Fahr. as being the most favourable for volatilizing the active principles of the iodine and conium, mixed with some watery vapour; but the approximation will be sufficient, if equal parts of boiling and cold water be used; with which the inhaler is not to be quite half filled. Invariably, however, care should be taken to prepare the bottle for this heat of water, by first washing it out with some tepid water.

During the process, the inhaler should be kept immersed in a jug containing water of rather higher temperature than 120° .

It is of the utmost importance that the strength of the inhaling mixture should be considered in relation to the particular case;* the feelings of the patient will be a great guidance. He should have the sense of relief, and not of inconvenient irritation, produced. The cough arising occasionally during the process is not an objection; but if it be more irritable afterwards, it shows that it has been used too strong. There is a certain stage of the tubercular disease, when over-excitement, from employing the iodine in too great quantity, might hurry on the softening process too quickly. It is here that the treatment demands the greatest judgment. In every case one of the following events may be expected to happen: either that the tubercular irritation will be arrested and gradually removed, be arrested and suspended, but not cured; or pass on to the softening process, which terminates in the production of an excavation. In all these different states of disease I advise the inhaling treatment to be employed.

I have formerly mentioned that at the period when I was preparing my first edition for publication, in the year 1830, Dr. Murray, of Belfast, in a treatise on Animal Heat, recommended the introduction of iodine to the lungs, diffused through warm aqueous vapour into the apartment; and hence it follows that without any communication—for I had not the pleasure of his acquaintance—we had thought of the same remedy; but I am well persuaded that the only certain and exact mode of employing it is by direct inhalation, so that the dose is defined; whereas, in the other mode, many circumstances must interfere with its regularity. Also I find the remedy infinitely improved by the addition of the conium.

In the Medical Gazette for April 6, 1839, we find a paper by Dr. Corrigan, of Dublin,

* In acute phthisis, the inhaling doses should be very weak. No remedy with which I am acquainted exerts so much influence over the hectic fever, used in the intervals, as the inhalation in question.

recommending, as a mode of inhalation, the impregnation of the atmosphere of the apartment with iodine vapour, by a mode different from that of Dr. Murray; but the principle is of course essentially the same. I am gratified with the favourable testimony which this physician bears to the remedial influence of iodine vapour in phthisis pulmonalis; but I am not disposed to choose his method of employing it. The volatility of the iodine would cause the vapour to ascend to the highest parts of the apartment;* it would attach itself to the linen furniture, and must, of necessity, find its way to the lungs of the patient in a very uncertain degree of strength. The objections of Dr. Corrigan and others to the direct method of inhaling which I recommend, is without foundation. It does not, as they state, cause irritation to the larynx and air-passages; but, on the contrary, its influence, if used of the proper strength, is soothing and agreeable. The addition of the conium divests the iodine of that irritating effect which would arise from its penetrating acrid qualities when used *per se*.

But we have a higher purpose to fulfil than the mere study of soothing the mucous membrane of the air passages. The modus operandi of remedies is a question of secondary importance to their real effect, and may lead to endless controversy. It is my belief that this direct and very accurate mode of applying this powerful medicine, iodine with conium, induces a new action in the vessels and nerves of the lungs, which is calculated to supersede the diseased action. I also assign much effect to the stimulation of the absorbents, and have been lead to believe that tubercles have in this manner been actually removed.

As the mode of conducting the inhaling process is of such sovereign importance, I shall be excused, I trust, if I enter at some length into this part of the subject.

Dr. Harwood of Hastings has lately published an account of the benefits to be derived from inhalation, in which he recommends his newly invented tin inhaler, stating, as the ground of preference over the glass inhaler commonly in use, that it is used with such perfect facility as to prevent fatigue; and, what I must admit, that it is not liable to be broken. I have carefully examined the action of this inhaler, and must take the liberty of offering the following criticism. The ingress tube not dipping into the water, the fresh atmospherical air which enters when the patient inhales, cannot be more than slightly impregnated; and

* Nor is the great waste of the iodine a slight objection to this method. The author states that in the use of the apparatus, "about six drachms of the tincture of iodine will be evaporated in an hour;" and when he has it at work, as he says, "from eight to twelve hours out of the twenty-four," it would form no small item of expense, employed in a charitable institution!

any one making a comparative trial with the glass inhaler, is at once made sensible of the great difference in the strength of the inhalation, from equal quantities of the ingredients used. Indeed this great defect in the construction of the apparatus will apply to any kind of medication of the water. As regards the use of iodine and chlorine, the objection of the metallic nature of this inhaler is a fatal one. I find that an action immediately takes place between these peculiar medicines and the tin, which weakens their properties very considerably. With the requisite alterations in the ingress tube, this will be rendered a very useful inhaler, when it is desired to employ herbs or gums; water of a higher temperature than 120° being mixed with such articles to bring out their volatile principles; although the patient should wait the reduction of such temperature to the proper degree, or he would be injured by the direct application of so much heat to the sensible surface of the air passages.

I have not been able to persuade myself of the advantage of the crescent-shaped mouth-piece in Dr. Harwood's inhaler, over the flattened one of the glass tube.

With a well constructed glass inhaler I find all the satisfaction I can desire. The bottle should be large, and the tubes capacious. The one issuing from the bottle should be upright, passing off in a gradual slight curve, so that the vapour should not be much cooled in the course of its progress; the ingress tube should dip very near to the bottom of the bottle, that all the air so introduced may receive impregnation. The patient must be desired to inhale by using at the same time suction and a pretty full inspiration, then to drop the under lip from the mouth-piece and make a free expiration; so conducting the process by pausing, and, if he like, little suspensions, in order that he may not experience any of the fatigue, which would certainly happen if breathing quickly, or using an inhaler with small tubes, or with too much water in the bottle.

A little practice also improves the power of the respiratory muscles, so that any little difficulty, which may by possibility be felt at the first by a very delicate and nervous individual, is soon overcome. When care is used to prepare the inhaler properly, the accident of fracture is easily guarded against. With respect to the influence of other medicines used in this way of inhalation, I beg to refer the reader, who is curious on the subject, to the second edition of my *Cases in illustration*.

Thus I hope to have made a useful addition to my former statements of the importance of the inhalation of iodine and conium in tubercular phthisis, as constituting one most valuable part of the systematic plan of treatment which I recommend; and if I should ever have appeared to speak of it as the sole and exclusive remedy to be employed, and to be used empirically, I have not done justice to myself,

and to my enlarged views of the pathology and treatment of consumption.

Did I not feel the necessity of restricting myself, in the discussion of my subject in this letter, I could much increase the evidence of the success of the treatment which I wish to advocate, by the relation of numerous cases of great amendment, or recovery, from tubercular phthisis in its different stages. I might also bring forward instances of relief and cure of various conditions of tracheal and bronchial disease, effected by means of inhalation and combined treatment.

I will, however, now conclude by observing, in the language of the poet to the enemy of the inhaling practice, if such there should continue to be,

*"Si quid novisti reetius istis,
Candidus imperti; si non, his utere meum."
Horat.*

In the treatment of tubercular phthisis, so much the most mortal of all diseases, no one need apprehend that he shall add unnecessarily to his means of giving relief.—*Lond. Med. Gaz.*

Tasteless Form of Ipecacuan.—When it is desirable to administer ipecacuan to refractory children, or to persons to whom the ipecac wine is particularly odious, as is often the case, the following form will be found to answer:—

Bruised root of ipecac., $\frac{1}{2}$ ʒ.

Boiling water, enough to make $1\frac{1}{2}$ ʒ.

Lemon syrup, $\frac{1}{2}$ ʒ. A twelfth part every third hour.

Dr. Osborne, Dub. Jour.

Dr. Giboin's experience in the use of Soot in certain affections of the Bladder.—Out of six cases of chronic inflammation of the bladder, four were cured by means of the following injection; the remaining two, which had ulceration in the fundus of the bladder, died. The injections were newly prepared and repeated thrice a day. Two ounces of chimney soot, as perfectly as possible freed from foreign bodies, were allowed to boil for six minutes in a pound of water, and the decoction filtered through paper. The pain was relieved immediately after the first injection. Dr. Giboin administered the soot internally in two cases of catarrh of the bladder which were almost despaired of, and with the best results. It was given in the form of pills, beginning with 4 grains daily, and increasing it soon to 16, 20, and 30 grains. These pills were prepared by boiling the finest soot for some minutes, filtering it through paper, evaporating the filtered fluid in a porcelain basin over a slow fire or sand bath to the consistence of an extract which is made up into pills,—*London Medical Gazette, from Medizin. Jarbuch des k.k. Österreichischen Staates.*